

ware, porcelain, glass, &c., which manifest a remarkable adherence to the body supporting them, and this result he has obtained by the very simple expedient of securing to the lower part of all kinds of goblet objects (Fig. 2) a groove, AA, in the form of a swallow-tail, into which is lodged a band of red india-rubber, a variety of vulcanised india-rubber, forming, when deposited, a kind of circular cushion. Objects furnished in this manner are almost incapable of falling from their places. They may be placed on a wooden table, and the table be inclined (Fig. 1) from 45 to 50 or even 60 degrees without upsetting any of them. The most direct and immediate use offered by the properties which a vessel so provided with india-rubber thus acquires is evidently in the shipping service. At the Fisheries Exhibition of last year in London, and at the Health Exhibition of this year, the inventor has displayed a little barque, the bridge of which is entirely covered with dishes, plates, &c., all furnished in the manner described; and the barque, floating in a basin, may be

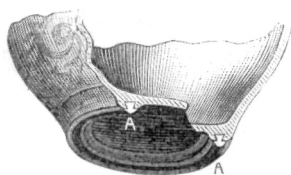


FIG. 2.—Arrangement of the india-rubber covering in a swallow-tail groove AA, provided at the base of the object.

tossed to and fro in every direction without displacing a single piece.

All who have been on long voyages at sea know the disagreeable and painful impression produced by the screen of cord laid along the table to prevent the glasses and bottles from falling.

As an accessory advantage possessed by the undisplaceable india-rubber dishes may be reckoned the less noise they occasion, and the less risk of breaking they run on being clapped down carelessly or hastily on the table. Washhand basins and water-pots may likewise be advantageously constructed with the india-rubber band.

Invalids in bed, and compelled to eat from a board placed more or less horizontally across the bed, and children, so apt to upset glasses and bottles, will both find their advantage in the undisplaceable contrivance. We have thus a simple, ingenious, and useful application of india-rubber, which we thought it incumbent on us to place before our readers.

### NOTES

IN the Daily Weather Report of the Meteorological Office for Friday last, there appears a note of some importance on the temperature of the Gulf Stream. A comparison has been made between returns from 28 ships, containing 116 recent observations, with the data in the charts of the Atlantic sea-surface temperature (recently published by the Office), of the area which lies, roughly speaking, between the latitudes of the North of Ireland and of Bordeaux respectively, and extending half way across the Atlantic. It appears from this comparison that during the past summer the ocean temperature in the course of the Gulf Stream was abnormally high, in June the whole of the above-mentioned area being about  $3^{\circ}$  above the mean, in July the half of the area nearest to the British Isles being about  $1^{\circ}5$  and in August about  $1^{\circ}$  higher than the mean. It is to be hoped that similar comparisons will from time to time be given by the Meteorological Office, so that the point may be investigated which was long ago suggested by the late General Sabine, as to there being possibly a connection between the temperature of the tropical and sub-tropical waters of the Atlantic and the

weather of Europe which followed, and to which we drew attention some years ago (NATURE, vol. xxi. p. 142).

SIR WILLIAM THOMSON lectured on Monday night, under the auspices of the Franklin Institute, at the Academy of Music, Philadelphia, on the "Wave Theory of Light," to a large audience.

GEN. PITT-RIVERS, as Inspector of Ancient Monuments, has issued a very careful and detailed report on his excavations in the Pen Pits, near Penselwood, Somerset. These pits are on the borders of Wilts, Somerset, and Dorset, and consist of a number of hollows in the surface of the ground of various forms and sizes, without order or regularity in their distribution. They cover a tract of high land of greensand formation, the area thus originally covered having been estimated at 700 acres. Various conjectures have been made by antiquaries as to their use, some maintaining that the pits are the remains of a great British city, or formidable series of fortifications; if so, as Gen. Pitt-Rivers points out, it would upset all our conclusions as to the social and political condition of the Britons, and of the extent of the pre-Roman population of these islands. Last autumn Gen. Pitt-Rivers carried out a series of excavations, cutting a section right across the pits in the parts most likely to yield remains of any possible inhabitants. Not a bit of pottery the size of a pea, he tells us, was found, and no indication whatever that these pits have ever been used as habitations. Ample evidence, however, was found that the pits were used as quarries, from which the inhabitants obtained grind-stones or quern-stones. The remains of quern-stones were found, all bearing marks of having been tool-dressed, and in the villages around many such stones are met with, all of them stated to have been obtained from the pits. It is to be hoped that the very careful piece of work thus performed by Gen. Pitt-Rivers, and his report, will set the question permanently at rest. Several plates of sections, plans, &c., accompany the report.

A COMMISSION of five French medical men have reported on their investigations as to the real nature and action of the cholera poison. The substance of their report as it appears in the *Times* is as follows:—"The initial lesion of cholera takes place in the blood. It essentially consists in the softening of the hæmoglobin, which makes some globules lose first their clear shape, the fixity of their form, and the faculty of being indented. Those globules adhere together, lengthen out—*en olive*—stick together, and in fulminating cases especially some are seen which are quite abnormal, while others appear quite healthy. The entire loss of elasticity of the globule (which is shown by the preservation of the elliptic form when it has been stretched out) is, in our view, a certain sign of the patient's death. To stretch out a globule you have merely to alter the inclination of a plate on which a sanguineous current has been established in the field of the microscope. The fluid column stops at one point, whereas the rest continues to flow. An elongation of the intermediary globules results, and then a rupture of the column. In the gap thus formed are some scattered globules. If these revert to their primitive form, the patient may recover. If they keep the elliptic form, we have seen death follow in every case, even if the patient's symptoms were not serious at the time of the examination of the blood."

EDUCATION in British Burmah appears to be in a sad condition. According to a correspondent of *Allen's India Mail*, the province has not yet produced any student capable of attaining the B.A. degree, and only five or six have succeeded in passing the first examination in Arts. There is no local school of medicine, and such native medicine as exists is a compound of empiricism and a belief in charms and enchantments; while the principal legal authority has repeatedly deplored the gross

ignorance of law exhibited by both advocates and judges. The Viceroy himself complained of the slowness of the official department in respect to female education. A change, however, appears to have been made by the Government of India, which has authorised the establishment of a College, though not yet of a University. Until 1881 the control of education in British Burmah was purely administrative, being vested in a Government department; but Lord Ripon decided to create a controlling body something like the London School Board, except that its members will be nominated, not elected. The rights of the missionaries, who appear to have been the pioneers of education in the province, as well as of the Burmese themselves, were recognised, and they are represented on the new governing body. The labours of the Board so far have been very successful. It created a law school and a free library; it has organised and simplified all public examinations, and has promoted a movement amongst the wealthy natives for endowing scholarships for the higher branches of education and for the promotion of learning generally. This is all very promising; but, according to the correspondent whom we have quoted, there is a slight rift in the lute in the shape of the hostility of the local officials to the acts and even to the existence of the Board. Bureaucratic prejudice, however, can hardly hinder effectually the work of a council established on such a broad basis as this one is, backed as it also is by the authority of the Government of India.

THE Health Exhibition in connection with the Autumn Congress of the Sanitary Institute of Great Britain was opened at Dublin on Tuesday by the Lord Mayor. The inaugural address to the members of the Institute was delivered in the evening by the President, Sir Robert Rawlinson. He observed that in our own days one of the greatest works to be accomplished is to stem the torrent of sanitary ignorance now working so much mischief. Quarantine, as now practised, works at enormous money cost as well as incalculable inconvenience, and produces much misery without preventing the effects intended to be warded off. Sir Robert Rawlinson referred to the conditions under which cholera has so long afflicted India and China, partly arising from bad or insufficient food, impure water, and defective sanitary arrangements. Turning to England, he spoke of its temperate climate, pure atmosphere, and soil almost entirely free from malaria; but we have much to be ashamed of, and much to amend, in our social economy. Commenting on cholera generally, he said that occasionally it is epidemic we know. That it is contagious in the sense imagined by the ignorant experience does not prove. The President then pointed out the connection between disease and the want of good sanitary arrangements in various countries, and showed the importance of pure air, good food, pure water supply, and efficient drainage and sewerage, putting forward practical suggestions for sanitary engineers.

MAJOR SERPA PINTO, the Portuguese traveller, will leave Mozambique very shortly at the head of an expedition in order to explore the country between Mozambique and Lake Nyassa. The route to be taken is kept secret, but it is rumoured that he will proceed to the Congo, *via* Lake Tanganyika. The expedition, which is now being fitted out, will be on a large scale. It will comprise one hundred Inhambane Zulus as a body-guard, and two hundred and fifty carriers, and will be accompanied by a Portuguese naval lieutenant and an English photographic artist.

THE death is announced from Bangkok of Mr. Henry Alabaster, the most eminent European servant of the Siamese Government. Besides various political services, Mr. Alabaster, who had been at one time in the British Consular Service, played an important part in the great advances recently made by

Siam. He introduced and established the telegraph and telephone in the country, collected a valuable European library for the palace, and originated the museum and the botanic gardens at Bangkok.

INTELLIGENCE has been received at Mozambique of the death, on August 16, of Capt. Foot, British Consul in the districts adjacent to Lake Nyassa. Capt. Foot has done some good exploring work in the Nyassa region.

THE Annual Exhibition of the Photographic Society opens at the Gallery in Pall Mall on Monday next.

A RED glow, similar to those of last year, was seen in the western sky at Berlin on September 13 at 6.45 p.m., viz. half an hour after sunset. It reached to a height of about 20° above the horizon, the colour being red to violet, which changed into a deep yellow near the horizon. Some measurements of the visible diameter was made by an observer, who discovered that the glow was limited by a spherical segment 20° in height, and with an extension towards the horizon of 35°. The centre of the segment coincided exactly with that of the sun below the horizon, which was then 78° west of the true north.

THE first news has been received from Lieut. Wissmann, leader of the expedition for the exploration of the Kasai. In a letter from Malange, dated August 25, he writes: "I am at last so far that I can say I leave this place to-morrow." Till then he had been merely making preparations.

A RECENT issue of the *Ceylon Government Gazette* contains a correspondence on the "grub" which ravages the coffee plantations of the island. The principal, and in fact only important, document in the publication is a lengthy report by Mr. R. McLachlan on the subject. Some forty species of beetles were submitted to him, but special interest centred in twenty of these, all or nearly all of which were allied to the *Melolontha vulgaris*, or common European cockchafer. Mr. McLachlan assumes that no undergrowth of grass or other herbaceous plants is allowed in the plantations, for the grubs of the European cockchafer and its allies feed on the roots of such plants, and not as a rule on those of trees and shrubs. But the larvæ would make their way from the roots of the weeds to those of the coffee plant. Whether hardening the surface of the ground around the plant so as to render it difficult for the female to deposit her eggs would be of any efficacy, is a point for the planters to decide for themselves in view of the welfare of the plant at the time. Mr. McLachlan professes himself unable to suggest any chemical poison for the grub, although he thinks that dilute kerosene oil might be tried. He advises, "above all things," to encourage insectivorous birds to the fullest possible extent, and adds that a flock of crows probably destroy more grubs in an hour than would be possible by any artificial means in a week; the systematic catching of the perfect insect or larva is also suggested as beneficial, and hand-picking should be resorted to where labour is cheap. Finally, he thinks it highly desirable that the Planters' Association or the Ceylon Government should establish an experimental plantation of a few acres, in which the natural history of the various kinds of grub, and the effect of the various supposed or real remedies, could be carefully watched.

A NEW development of telegraphy has been instituted by Michela in Italy: he has constructed a machine by which signs corresponding to various sounds can be telegraphed; thus we have practically a telegraphic shorthand to which the name "steno-telegraphy" is given. Michela's apparatus has now been in regular use for some period in telegraphing the debates of the Italian Senate. The transmitting apparatus briefly consists of two series of ten keys, each of which corresponds to some particular sound. Each key acts in reality like a Morse key, and thus transmits a current to the receiving instrument. The

receiving instrument consists of a combination of twenty Morse receivers, to each of which is attached a style which marks on the receiving paper its proper sign, thus producing a stenographic message. Great speed in transmitting is claimed for this method, and the following figures are given as comparative :—

Morse simple ... ..	500 words per hour
Hughes simple ... ..	1,200 „ „
Wheatstone ... ..	1,800 „ „
Steno-telegraphic ... ..	10,000 „ „

A MEDICAL student, M. J. Ol-en, who has been engaged during the summer in studying the fungoid flora in the neighbourhood of Bergen (Norway), has found on Ask Island a specimen of the remarkable *Tricholoma colossus*. It is the first time it has been found in Norway, and it has only once been found in Sweden. The stem is  $2\frac{1}{2}$  inches in diameter. Prof. Elis Fries in describing this variety says: "I discovered this unique variety for the first time among branches of spruce lying on the ground in a place near the Tem Lake in Småland (Sweden). It is the largest and finest of the hitherto discovered mushrooms."

THE thirteenth annual *conversazione* of the Chester Society of Natural Science was held in the Town Hall on September 25, and was attended not only by the members, but by a contingent of the Iron and Steel Institute, who have been holding their annual meeting in the Cestrian city. The Kingsley Memorial Medal was awarded to Mr. A. O. Walker, F.L.S., and Kingsley Memorial prizes were given for local natural history collections. It was announced that a prize of 10*l.* would be given in 1885 for the best collection of coal-measure fossil plants from the Society's district, a similar sum in 1886 for the best collection of "Bees and Wasps" from the same area, and in 1887 "for the best Essay on the Physiography of the Society's District, on the lines of Prof. Huxley's Physiography;" the district in question being Flint and Denbigh, with as much of the county of Cheshire as lies west of a line drawn south from Warrington. The exhibition of microscopic objects was, as is usually the case at Chester, exceedingly good, and for teaching purposes they were rendered more useful by the publication by the Society of a little handbook of twenty-eight pages, on Natural History, for use in the annual *conversazioni* and other meetings of the Society. It is drawn up by Mr. C. F. Fish, and appears to be an expansion of the useful programme, on which we commented last year. The information as to the classification and structures of the lower orders of life, both animal and vegetable, appear to be very carefully done, and are very concise. The work could be made much more useful by expanding the geological and physical portions; it is published at a few pence.

DR. GEORG SCHWEINFURTH has left Berlin to return to Egypt, whence he intends to start upon a new scientific exploring tour through the desert.

ON September 18 the meeting of German naturalists was opened at Magdeburg, under the presidency of Dr. Gachde. Over a thousand men of science were present. Strasburg was fixed upon as next year's meeting-place, with Profs. Kussmaul and De Bary as secretaries. Among the addresses delivered we may mention:—On the relation of micro-organisms to the infectious diseases of man, by Prof. Rosenbach (Göttingen); on the importance of German colonisation in Africa, by Dr. Gerhard Rohlfs; various medical addresses by Drs. Schwarz (Cologne), Paetz (Alt-Scherbitz), Finkler (Bonn), and Prior.

THE death is announced near Sydney of James Snowdon Calvert, the last survivor of Leichhardt's Australian exploring expedition.

A TELEPHONE now transmits, by the ordinary telegraph wire, the music from the Brussels Opera House to the Royal Châlet at

Ostend. The system, of course, is Van Rysselberghe's, mentioned in our last number.

THE late Dr. Ferd. von Hochstetter's travelling reports, dating from the celebrated *Novara* Expedition (1857–59), are now being published in book form, upon the occasion of the twenty-fifth anniversary of the *Novara*'s safe return to Trieste. The book will contain a portrait of the author, a preface by V. von Haardt, and a map of the course of the *Novara*. Hölzel of Vienna is the publisher.

M. CHARLES HUBER, who was travelling in the interior of Arabia in the service of the French Ministre de l'Instruction Publique (formerly together with Prof. Euting of Strasburg) has been murdered near Labegh (Rabegh?) by Bedouins of the Harl tribe. His Arabian servant Mahmoud has met the same fate.

NEWS has been received from Capt. Adrian Jacobsen, now travelling in Northern Asia, by order of the Berlin Ethnological Museum with a view of making ethnographical collections. Capt. Jacobsen, after leaving St. Petersburg, visited Kasan, Ekaterinburg, and Tomsk, and has already sent home two large cases containing ethnographical objects collected among the uncivilised Russian tribes of the Tscheremiss, and Tschumrasch, and Wotjaks.

REFERRING to our note of last week on Mr. St. Clair's "Note on a Possible Source of Error in Photographing Blood Corpuscles," the author writes to say that "in Dr. Norris's photographs where the colourless disks are well defined, the dark ones are out of focus." But it has not been shown possible to produce the ghosts while the real images are *at all* visible, and until this is done we must adhere to the opinion we have already expressed.

THE additions to the Zoological Society's Gardens during the past week include a Toque Monkey (*Macacus pileatus* ♂) from India, presented by Mrs. Batchelder; a Common Marmoset (*Haplorhina jacchus* ♂) from Brazil, presented by Mr. W. E. Steinscher; six Great Bats (*Vespertilio noctula*), British, presented by Mr. W. Atkinson; two King Parrakeets (*Aprosmictus scapulatus*), two Cockateels (*Calopsitta novaehollandiae*) from Australia, presented by Mrs. C. Price; two Spanish Terrapins (*Clemmys trijuga*), South European, presented by Mr. W. H. J. Paterson; a Common Viper (*Vipera berus*), British, a Viperine Snake (*Tropidonotus viperrinus*) from West Africa, presented by Mr. William Cross; a Common Snake (*Tropidonotus natrix*), a Common Viper (*Vipera berus*), British, presented by Mr. W. H. B. Pain; a White-breasted Kingfisher (*Halcyon smyrnensis*) from India, two Reed Buntings (*Emberiza scheniculus*), a Blackcap (*Sylvia atricapilla*), a Pied Wagtail (*Motacilla lugubris*), British, a Tree Boa (*Corallus hortulanus*) from Cuba, purchased.

#### OUR ASTRONOMICAL COLUMN

COMET 1884 *b* (BARNARD, JULY 16).—Dr. Berberich of Strasburg, who has investigated the elements of this comet from observations extending to September 14, has found an elliptical orbit, in which the period is only  $5\frac{1}{2}$  years, a result which will perhaps have been rather expected, considering the nature of the parabolic orbits previously calculated, and, as was pointed out by Prof. Weiss, their resemblance to the elements of De Vico's comet of short period observed in 1844. Dr. Berberich's ellipse is as follows:—

Perihelion passage, 1884, August 16<sup>h</sup> 48<sup>m</sup> 34<sup>s</sup> Greenwich M.T.

Longitude of perihelion ... ..	306° 7' 31".1	} Mean
„ „ „ ascending node ... ..	5 3 50.2	
Inclination ... ..	5 28 49.6	} 1884.0
Angle of eccentricity ... ..	36 3 43.8	
Log. semi-axis major ... ..	0.493392	
Period of revolution ... ..	2007.9 days or 5.4965 years	